Supplementary Material: *A Threat in the Network: STEM Women in Less Powerful Network Positions Avoid Integrating Stereotypically Feminine Peers*

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Content Statement

This supplement reports additional analyses and summary statistics that are not central to the primary claims of the paper, but address secondary points of interest. Its contents include:

1. descriptions of materials' pre-testing procedures and results;
2. analyses of background variables (friend count, identification with major or gender), LinkedIn usage, perceived target similarity (to self & friends) and fit;
3. analyses of competence manipulation and academic integration measures;
4. analyses of potential moderators of friendship intentions: target photo, participant race, gender and major identification, and types of friends; and
5. pooled mega-analyses across the two experiments that used virtually identical materials.

Effects codes match the main paper (e.g., -1 = STEM-stereotypic, 1 = feminine-stereotypic).

1. Pre-Testing

Materials were pre-tested to minimize confounds while ensuring relevant constructs varied as intended.

Target Photos

Pre-testing identified photos matched on attractiveness and friendliness, to use in race-matched target profiles for White and East Asian participants. (Matching participant and target race reduces concerns about willingness to befriend racial outgroup members, given widespread race-based friendship homophily)

A Mechanical Turk sample (N = 107; 52% male, 48% female; M_{age} = 31) rated yearbook photos (from another country) of 15 East Asian and 15 White women on their attractiveness (n = 52) or friendliness (n = 55) from 1 (*not at all*) to 10 (*extremely*), suitability as a Facebook profile photo (0 = no, 1 = yes), and race. The selected photos of 2 White and 2 East Asian women were moderately attractive (M = 4.5) and friendly (M = 5.1), with no differences by race on attractiveness, $F(1, 51) < 1$, or friendliness $F(1, 54) = 2.99$, p = .089. The photos were above 0.5 on Facebook suitability and reliably categorized as White or East Asian.

Target Interests

Before Experiment 1, a pre-test was conducted to ensure objective similarity could not explain STEM women's affinity for a STEM- (vs. feminine-) stereotypic target. Interests (e.g., books, TV, music) reported by 2300+ students from various majors were paired based on their popularity among STEM students, assigning one interest per pair to its stereotypically appropriate profile. Interests high in STEM popularity went to the STEM-stereotypic profile if popular only among STEM majors (e.g., *programming*) or to the feminine-stereotypic profile if equally (or more) popular among non-STEM students (e.g., *working out*). Interests low in STEM popularity went to the STEM-stereotypic profile if unpopular among all students (e.g., *cricket*) or to the feminine-stereotypic profile if popular only among non-STEM students (e.g., *shopping*). In sum, the STEM-stereotypic profile merged exclusively STEM and universally unpopular interests—whereas the feminine-stereotypic profile merged exclusively non-STEM and universally popular interests—to hold overall STEM popularity constant (and moderate) across profiles, while varying their gender stereotypicality.

Profile Gender Stereotypicality

A Mechanical Turk sample (N = 150; 47% male, 53% female; M_{age} = 39) confirmed the profiles differed on gender stereotypicality. Participants rated only the activities and interests from each profile (in random order) from -3 (*Extremely masculine*) to +3 (*Extremely feminine*), then whether each profile came from a male or female undergraduate. The Pilot feminine-stereotypic profile (M = 2.13, SD = 0.96) was rated more feminine than the STEM-stereotypic profile (M = -1.61, SD = 1.03), $F(1, 149) = 791.97$, $p < .001$, $\eta^2_p = .84$, d = 3.76. The revised feminine-stereotypic profile also seemed more feminine (M = 1.48, SD = 1.08) than the revised STEM-stereotypic profile (M = 0.87, SD = 1.21), $F(1, 148) = 332.59$, $p < .001$, $\eta^2_p = .69$, d = 2.05. The revised feminine-stereotypic profile was slightly less feminine than the original, but both differed from the scale midpoint of "neither feminine nor masculine," $t(148) = 16.83$ and $t(149) = 27.20$, ps < .001.

Extremity analyses were conducted by rescoring the ratings for the STEM-stereotypic profiles so that higher values corresponded to greater masculinity or estimating that the target was male. The feminine-stereotypic profile's femininity exceeded the STEM-stereotypic profile's masculinity for the original and revised profiles, $F(1, 149) = 30.92$ and $F(1, 148) = 20.45$, ps < .001, η^2_ps = .17 and .12, respectively.

Estimates of the targets' gender confirmed that the feminine-stereotypic profile appeared more feminine than the STEM-stereotypic profile in each version. For the original feminine-stereotypic profile, 96% of participants attributed it to a woman (vs. 4% a man), significantly differing from chance, $\chi^2(1) = 126.96$, p < .001. Conversely, 91% attributed the STEM-stereotypic profile to a man (vs. 6% to a woman; 3% unsure), $\chi^2(1) = 111.23$, $p < .001$. With revised profiles, 87% attributed the feminine-stereotypic profile to a woman (vs. 9% to a man; 4% unsure), $\chi^2(1) = 96.69$, $p < .001$, and 62% attributed the STEM-stereotypic profile to a man (vs. 19% to a woman; 19% unsure), $\chi^2(1) = 34.92$, $p < .001$.

In sum, this pre-test confirmed that the feminine-stereotypic profiles were significantly more feminine and more stereotypically gendered than the STEM-stereotypic profiles.

Target Competence

Before Experiment 2, a pre-test (N = 22) assessed LinkedIn profile competence perceptions. Raters saw four profiles varying in academic and major-relevant work content then rated each target's intelligence, diligence, GPA, and standing. A repeated-measures MANOVA revealed that profiles differed, $F(3, 10) = 25.88$, $p < .001$. Experiment 2 used the two most discrepant profiles (M_{diff} = -0.81, SE = 0.13, $p < .001$): The Experiment 1 profile and a lower-competence one (see Appendix S1), right after the Facebook profile.

2. Initial Analyses

Initial analyses compared the size of STEM women's networks and the strength of their identification with their major or gender to those of control groups, assessed prevalence of LinkedIn usage, and tested whether manipulating the target's interests to be feminine- or STEM-stereotypic affected her perceived similarity to STEM (vs. non-STEM) participants.

Network Size (Friend Count)

Network size reflected the number of friends (up to 10) participants listed. This count variable (with a negatively skewed distribution) was analyzed using a Kruskal-Wallis rank test, the nonparametric analogue of one-way ANOVA. Participants listed an average of 8.1-8.3 friends (*Mdn* = 10). Non-STEM women tended to list the fewest friends, but network size varied by participant type only in the Pilot [$\chi^2(2, N = 280) = 14.58$, $p = .001$], not Experiments 1 ($p = .100$) or 2 ($p = .096$). For means and pairwise tests see Table S1.

Major and Gender Identification Strength

Means, *SD*s, and post-hocs are reported in Table S1. Exposure to a feminine- versus STEM-stereotypic target (always from another major: Biology) seemed unlikely to alter participants' global identification with their own gender or major, but as identification measures were collected last, target stereotypicality effects were also tested. In all samples gender identification differed by participant type, with non-STEM women most strongly identified (see Table S1). Major identification did not significantly vary by participant type in any sample, all *F*s < 1. No reliable target stereotypicality differences emerged.

These results indicate that STEM women did not differ significantly from the two control groups on identification with their academic major, eliminating a potential confound. STEM women were less identified with their gender than non-STEM women in the Pilot and Experiment 2 (not Experiment 1), but they never differed from STEM men, nor did gender identification moderate any of the reported effects.

LinkedIn Usage

Based on relatively low LinkedIn usage across Experiments 1 (44%) and 2 (36%)—in contrast to nearly 100% for Facebook usage—potential LinkedIn connections to the target were not analyzed.

Table S1

Background Measures by Participant Type

	Participant type			Total
	STEM men	STEM women	Non-STEM women	
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*
Pilot				
Gender identification	$0.64\ (0.83)_{ab}$	$0.39\ (1.08)_{a}$	$0.83\ (0.73)_{b}$	0.68 (0.85)
Major identification	$0.76\ (0.97)_{a}$	$0.77\ (1.01)_{a}$	$0.75\ (0.84)_{a}$	0.76 (0.92)
Network size (friend count)	$8.23\ (2.66)_{a}$	$9.14\ (1.76)_{a}$	$7.52\ (2.77)_{b}$	8.09 (2.64)
Normalized brokerage	$0.49\ (0.27)_{a}$	$0.54\ (0.26)_{ab}$	$0.63\ (0.27)_{b}$	0.55 (0.27)
Experiment 1				
Gender identification	$0.44\ (1.03)_{a}$	$0.56\ (0.93)_{ab}$	$0.80\ (0.83)_{b}$	0.56 (0.97)
Major identification	$0.80\ (1.02)_{a}$	$0.72\ (0.95)_{a}$	$0.63\ (0.89)_{a}$	0.74 (0.97)
Network size (friend count)	$8.47\ (2.40)_{a}$	$8.80\ (2.16)_{a}$	$7.68\ (2.84)_{a}$	8.34 (2.49)
Normalized brokerage	$0.51\ (0.30)_{a}$	$0.53\ (0.30)_{a}$	$0.70\ (0.26)_{b}$	0.56 (0.30)
Experiment 2				
Gender identification	$0.43\ (1.06)_{a}$	$0.37\ (1.08)_{a}$	$0.73\ (0.86)_{b}$	0.53 (1.01)
Major identification	$0.80\ (0.90)_{a}$	$0.75\ (1.01)_{a}$	$0.83\ (0.87)_{a}$	0.80 (0.91)
Network size (friend count)	$8.20\ (2.59)_{ab}$	$8.50\ (2.45)_{a}$	$7.85\ (2.83)_{b}$	8.14 (2.65)
Normalized brokerage	$0.51\ (0.29)_{a}$	$0.56\ (0.24)_{ab}$	$0.61\ (0.26)_{b}$	0.56 (0.27)

Note. Differing subscripts within rows indicate significant differences at the $p < .05$ level using post-hoc tests (and pairwise Kruskal-Wallis rank tests for friend count).

Perceived Similarity and Fit with Friends

Means and *SD*s are reported in Table S2). In the Pilot, which did not attempt to standardize similarity across profiles, STEM majors—both male and female—saw the feminine-stereotypic target as less similar to themselves and their friends than the STEM-stereotypic target, all *p*s < .035, and for non-STEM women this effect was non-significantly reversed. In contrast, in Experiments 1 and 2, which used profiles revised for equal STEM popularity, the previously significant participant type × target stereotypicality interactions no longer emerged for perceived similarity to oneself or to friends or perceived fit with friends, all *p*s > .16. Full details are available from the first author. Although greater similarity to the STEM-stereotypic target could have contributed to the effects observed in the Pilot for STEM women, these results indicate that with the revised profiles in Experiments 1 and 2, similarity is no longer a plausible confound.

Table S2

Dependent Measures by Participant Type and Target Stereotypicality

	Participant type and target stereotypicality					
	STEM men		STEM women		Non-STEM women	
	STEM-T	Fem-T	STEM-T	Fem-T	STEM-T	Fem-T
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
Pilot						
Similarity to self	2.98 (1.14)	2.32 (0.99)	3.33 (0.92)	2.65 (1.37)	3.20 (0.95)	3.32 (1.00)
Similarity to friends	2.83 (0.77)	2.36 (0.80)	2.91 (0.44)	2.31 (0.68)	2.80 (0.61)	2.87 (0.66)
Perceived fit	2.53 (0.87)	2.13 (0.95)	2.73 (0.83)	2.00 (0.87)	2.39 (0.82)	2.62 (0.87)
Experiment 1						
Similarity to self	2.97 (0.89)	2.92 (0.82)	3.50 (0.61)	3.03 (0.89)	3.31 (1.00)	3.15 (0.82)
Similarity to friends	2.84 (0.62)	2.77 (0.65)	3.00 (0.61)	2.80 (0.69)	2.91 (0.79)	3.00 (0.45)
Perceived fit	2.52 (0.82)	2.58 (0.79)	2.85 (0.67)	2.57 (0.86)	2.56 (0.98)	2.81 (0.92)
Experiment 2						
Similarity to self	2.70 (0.87)	2.76 (1.00)	2.93 (0.92)	2.81 (1.03)	3.27 (0.95)	3.47 (0.88)
Similarity to friends	2.69 (0.59)	2.68 (0.70)	2.74 (0.59)	2.61 (0.60)	2.88 (0.52)	3.01 (0.54)
Perceived fit	2.45 (0.82)	2.39 (0.81)	2.46 (0.73)	2.27 (0.84)	2.64 (0.71)	2.79 (0.80)

Note. STEM-T = STEM-stereotypic target. Fem-T = Feminine-stereotypic target.

3. Competence Manipulation and Academic Integration

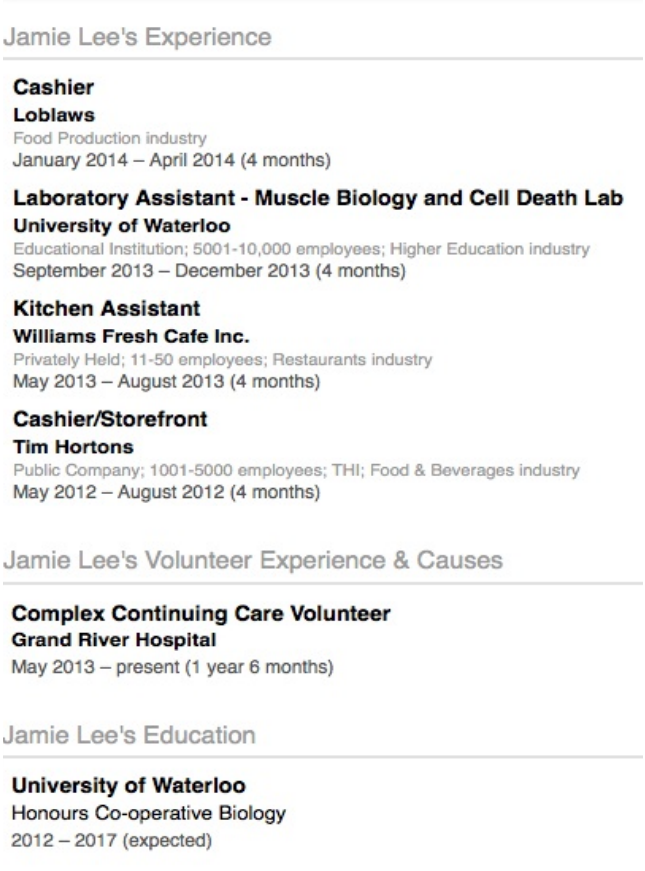
In Experiment 2, which included a target competence manipulation, the relevant manipulation checks yielded mixed results. The moderate-competence profile (M = 3.62, SD = 0.64; see below) was seen as only marginally less competent than the high-competence profile (M = 3.72, SD = 0.65) , $t(532) = 1.81$, $p = .071$, $d = 0.16$, a mean difference 8 times smaller than in pre-testing (which used a within- rather than between-participants design). Participants anticipated that the moderate-competence target would achieve a lower grade (M = 10.52; B+/A-; SD = 1.21) than the high-competence target (M = 10.97; A-; SD = 1.11), $t(514.6) = 4.47$ (equal variances not assumed), $p < .001$, $d = 0.39$. These results signal relatively minor variation in competence, potentially contributing to the lack of moderation described subsequently.

Experiments 1 and 2 included exploratory academic measures to detect whether target stereotypicality affected STEM women's willingness to integrate the target within an academic domain. Participants were asked to imagine that "you and a friend from your major are enrolled in a difficult elective course to fulfill a major requirement, and Jamie is also enrolled in the course." (Relative to a core course in participants' own major, an elective reduces concerns that a Biology major would underperform, regardless of her STEM- or feminine-stereotypicality.) No significant (or marginal) differences emerged by target stereotypicality: Full analyses as well as means, SDs, and correlations are available from the first author.

Across the two experiments, manipulating target stereotypicality yielded no target preference pattern for academic integration. These null effects may reflect the relatively low-stakes setting of this scenario: an elective course outside participants' major with only one other friend present (which reduces opportunities for brokerage levels within participants' larger friendship network to influence these measures). Because target competence yielded mixed manipulation check results, did not vary by target stereotypicality, and did not moderate friendship intentions (see next), all other analyses collapse across competence conditions.

High-Competence Profile: Experiments 1 & 2

Moderate-Competence Profile: Experiment 2



4. Moderation Analyses

Supplemental analyses probed for any variation in the friendship intentions results based on potential moderators. These tests of moderation were exploratory and would have inflated familywise likelihood of Type I error if tested via effects-coded contrasts (e.g., the interaction of 3-level predictors participant type with friend type would involve four separate contrasts), so analyses first tested the omnibus interaction involving each moderator, then probed the STEM female contrast only if that moderation was significant. Standardized effect sizes are reported, except if t or $F < 1$, but cannot be reliably estimated in GEE models.

Target Attractiveness

The White and East Asian targets did not differ overall on attractiveness, but within each group one target was rated slightly higher. Attractiveness did not moderate brokerage-related or basic effects for friendship intentions in the Pilot (*p*s > .10), Experiment 1 (*p*s > .31), or Experiment 2 (*p*s > .37).

Target Competence

Whether Experiment 2 participants viewed a high- or moderate-competence LinkedIn profile did not significantly moderate basic or brokerage-related effects for friendship formation or integration, all *p*s > .18.

Participant Race

Participant race unexpectedly moderated some key findings for friendship intentions. These effects are inconsistent, emerging in opposite directions in the Pilot versus Experiment 1, then absent in (highest-powered) Experiment 2, so these results are briefly summarized below, with full results, as well as means and *SD*s by condition, available from the first author.

In the Pilot, tests of moderation by participant race of basic and brokerage-based effects for friendship formation and integration found that White STEM women tended to prefer the STEM- (vs. feminine-) stereotypic target—especially at low brokerage—whereas the effects were weaker or reversed for East Asian STEM women. (No significant effects emerged for STEM men or non-STEM women of either race.) In Experiment 1, the opposite pattern emerged in three of four tests of participant race moderation. Specifically, no significant effects emerged for White STEM women, or STEM men and non-STEM women of either race, but East Asian STEM women significantly preferred the STEM- (vs. feminine-) stereotypic target for friendship formation and (especially when low in brokerage) friendship integration. In Experiment 2, however, participant race did not moderate friendship intentions for brokerage-based or basic effects.

In sum, the predicted pattern of selective affiliation with STEM- (vs. feminine-) stereotypic targets, especially among those low in network brokerage, emerged for White STEM women in the Pilot and for East Asian STEM women in Experiment 1. Possibly the different profiles in these experiments reflected better calibration of interests for the racial group that showed the predicted effects. However, Experiment 2—which included at least 50 STEM women of each race, versus 20-25 in prior samples—used the updated profiles without finding moderation by participant race, so cautious interpretation is warranted.

Gender Identification

The strength of participants' identification with their gender did not moderate brokerage effects (at all) or lower-order effects consistently. In Experiment 2, the lower-order participant type × target stereotypicality × gender identification interaction was significant for friendship integration, $\chi^2(2) = 6.26$, $p = .044$. No effects emerged among the weakly identified, but among strongly gender-identified participants, the hypothesized preference for STEM- over feminine-stereotypic targets emerged only for STEM women ($p = .025$), not STEM men or non-STEM women (*p*s > .14).

Gender identification strength failed to moderate most effects, but Experiment 2 provided intriguing initial evidence that the basic preference for STEM women to socially integrate STEM- (vs. feminine-) stereotypic women into their friendship group may increase for women more strongly identified with their gender. Perceiving one's gender as central to one's self-image may amplify concerns about stigma by association. This effect was not predicted (and unrelated to brokerage), meriting cautious interpretation.

Major Identification

The strength of participants' identification with their academic major did not moderate brokerage-related or basic effects for friendship intentions in the Pilot (*p*s > .32) or Experiment 1 (*p*s > .49). In Experiment 2, however, a pattern emerged of major identification moderating key effects on friendship intentions. These interactions were probed at ±1 *SD* from the mean, $M_H = 1.71$ (near the scale maximum of 2) and $M_L = -0.11$ (near the midpoint of 0), revealing that STEM women less identified with their majors (who reported moderate identification in absolute terms) showed the predicted target preferences more strongly. (Table S1 reports means of major identification by participant type, which were comparable.)

Major identification moderated the participant type × target stereotypicality × brokerage interaction significantly for friendship formation, $F(2, 502) = 3.04$, $p = .049$, $\eta^2_p = .01$, and descriptively for friendship

integration, $\chi^2(2) = 4.07$, $p = .131$. (Using the STEM female contrast, this 4-way interaction was significant for formation, $p = .014$, and marginal for integration, $p = .070$.) Among participants less (i.e., moderately) identified with their major, the STEM female contrast × target stereotypicality × brokerage simple interaction was significant for friendship formation and integration, $b = 0.96$, $t(502) = 2.73$, $p = .007$, $\eta^2_p = .01$, and $b = 0.68$, $SE = 0.30$, $\chi^2(1) = 5.10$, $p = .024$, respectively; highly identified participants showed no interaction, $ps > .35$. Within the moderately-identified group, only STEM women significantly preferred befriending the STEM- (vs. feminine-) stereotypic target, both in general for friendship formation, $b = -0.27$, $t(502) = 2.51$, $p = .012$, $\eta^2_p = .01$, and as a function of decreasing brokerage for friendship formation and integration, $b = 0.98$, $t(502) = 2.09$, $p = .037$, $\eta^2_p = .01$, and $b = 0.87$, $SE = 0.42$, $\chi^2(1) = 4.30$, $p = .038$, respectively. (These effects were not significant for STEM men or non-STEM women, all $ps > .12$.) Among STEM women moderately identified with their major, those high in brokerage showed no target preferences, $ps > .65$, but those low in brokerage significantly preferred befriending and integrating the STEM- (vs. feminine-) stereotypic target, $b = -0.54$, $t(502) = 3.11$, $p = .002$, $\eta^2_p = .02$ and $b = -0.42$, $SE = 0.16$, $\chi^2(1) = 6.85$, $p = .009$. The hypothesized relationship between network brokerage, target stereotypicality, and friendship intentions (evident in prior experiments for STEM women generally) replicated significantly in Experiment 2 specifically among STEM women moderately identified with their academic major (see Figure S1).

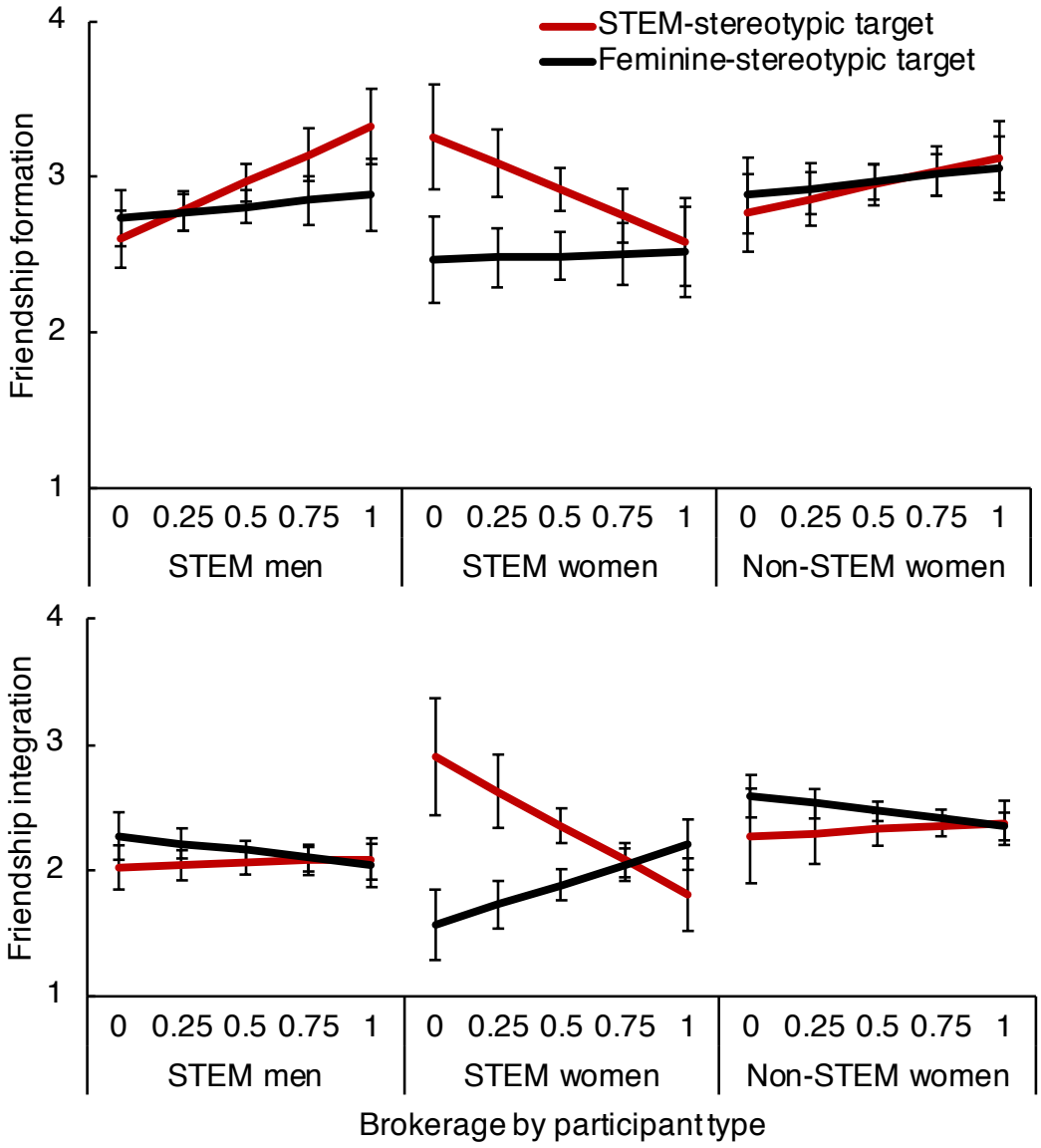


Figure S1. Friendship intentions by participant type, target stereotypicality, and normalized brokerage for participants less (i.e., moderately) identified with their academic major in Experiment 2. Error bars: ± SE.

Similarity, major identification marginally moderated the lower-order participant type × target stereotypicality interaction for friendship integration, $\chi^2(2) = 4.77$, $p = .092$, but not friendship formation, $F(2, 502) < 1$. The STEM female revealed significant variation based on major identification in how willing STEM women (vs. control groups) were to integrate feminine- versus STEM-stereotypic targets, $b = 0.10$, $SE = 0.05$, $\chi^2(1) = 4.17$, $p = .041$. Probing this interaction by major identification level, the STEM female contrast × target stereotypicality simple interaction was significant for participants less (i.e., moderately) identified with their major, $b = -0.16$, $SE = 0.06$, $\chi^2(1) = 6.43$, $p = .011$, but not participants highly identified with their major, $p = .733$. Among moderately major-identified participants, a significant preference for integrating the STEM- (vs. feminine-) stereotypic target emerged for STEM women only, $b = -0.18$, $SE = 0.08$, $\chi^2(1) = 5.08$, $p = .024$, not STEM men or non-STEM women, ps > .33.

This moderation of target preferences by strength of academic major identification should be interpreted cautiously, because it did not emerge across all studies (though prior experiments were less well powered to detect 4-way interactions). Major identification was assessed near each experiment's end and these analyses were exploratory. Still, the predicted pattern of STEM women specifically reporting higher friendship intentions toward a STEM- (vs. feminine-) stereotypic target when low in brokerage, indexed by the STEM female contrast × target stereotypicality × brokerage interaction—trending in Experiment 2 overall—proved significant for participants moderately identified with their academic major (see Figure S1).

Friend Type

Consideration of friends' gender and major proved unexpectedly complex in all samples. Friendship nominations were unconstrained, rather than focused on the three gender-by-major groups of interest (STEM male friends, STEM female friends, non-STEM female friends), so many listed friends could not be classified into these groups (41.9%, 34.9%, & 39.2%, respectively, in the Pilot, Experiment 1, & Experiment 2). Many friends (35-42% across experiments) came from uncategorized majors (neither male-dominated STEM majors nor female-dominated non-STEM majors). STEM men listed mostly STEM male and STEM female friends, but for STEM and non-STEM women, fewer than half of their friends could be successfully categorized into the gender-by-major groups. Moreover, very few participants (7.5%, 8.2%, & 8.0% in these experiments) listed friends from all groups, limiting possible comparisons across friend types. Finally, uneven distribution of friend groups created under-populated cells. Among classifiable friends, over two-thirds belonged to the same gender-by-major category as participants (see Table S3), reflecting substantial homophily in each experiment, all χ^2s(1) > 193, all ps < .001. The tendency to nominate friends from inside (vs. outside) one's own gender-by-major category was strongest among STEM men, all χ^2s(1) > 322, all ps < .001, and non-STEM women, all χ^2s(1) > 80, all ps < .001, whereas most STEM women typically listed STEM male and female friends. In sum, uneven distribution of friend types and uncategorizable friends hindered direct within-participant comparisons of perceived target-to-friend similarity and introductions to specific friends. Analyses of moderation by friend type are not reported but available from the first author.

Table S3

Distribution of Friend Type by Participant Type: Count, Mean Number, and Percent Listing

	Friend type								
	STEM men			STEM women			Non-STEM women		
Participant type	#	*M*	%	#	*M*	%	#	*M*	%
Pilot									
STEM men	594	4.8	91%	96	0.8	46%	20	0.2	15%
STEM women	161	3.7	80%	92	2.1	80%	10	0.2	16%
Non-STEM women	55	0.5	26%	16	0.1	12%	271	2.4	81%
Experiment 1									
STEM men	623	5.1	97%	102	0.8	49%	26	0.2	15%
STEM women	210	4.2	90%	103	2.1	76%	15	0.3	20%
Non-STEM women	19	0.3	22%	11	0.2	19%	150	2.5	85%
Experiment 2									
STEM men	1233	5.1	93%	170	0.7	40%	39	0.2	11%
STEM women	407	3.5	88%	236	2.0	79%	26	0.2	17%
Non-STEM women	86	0.4	31%	47	0.2	19%	492	2.5	85%

Note. Total friend count, mean number of friends per participant, and percent of participants listing at least one friend of this type are reported. Means do not sum to 10 due to uncategorized friends.

5. Pooled Mega-Analysis

To assess the cumulative contributions of this research, mega-analysis pooled data from Experiments 1 and 2—which used the same revised profiles to manipulate target stereotypicality and identical measures of friendship intentions—to verify which effects emerge in aggregate. To achieve conservative tests of the brokerage hypotheses the samples were not weighted equally. Each participant had equal weight, so the Experiment 2 sample (N = 553), with weaker brokerage effects, outweighed Experiment 1 (N = 232).

Brokerage effects

For friendship formation, the STEM female contrast × target stereotypicality × brokerage interaction that first emerged in the Pilot (p = .051) only trended toward significance when pooling across Experiments 1 and 2, b = 0.28, $t(756)$ = 1.49, p = .137, η^2_p < .01, as did the target stereotypicality × brokerage simple interaction for STEM women, b = 0.41, $t(756)$ = 1.61, p = .109, η^2_p < .01. Notably, tests of simple effects revealed that STEM women high in brokerage showed no target preference, b = -0.04, SE = 0.10, $t(756)$ < 1, η^2_p < .01, whereas those low in brokerage significantly preferred to befriend the STEM-stereotypic (vs. feminine-stereotypic) target, b = -0.26, $t(756)$ = 2.74, p = .006, η^2_p = .01. No other groups showed significant target preferences at high or low levels of brokerage, all ps > .59, suggesting that this effect was unique to STEM women, albeit not significantly stronger for STEM women than the control groups.

For friendship integration, the STEM female contrast × target stereotypicality × brokerage interaction proved significant across Experiments 1 and 2, b = 0.39, SE = 0.18, $\chi^2(1)$ = 4.58, p = .032. Critically, the target stereotypicality × brokerage simple interaction for STEM women attained significance, b = 0.70, SE = 0.25, $\chi^2(1)$ = 7.91, p = .005. STEM women high in brokerage showed no target preference, b = 0.10, SE = 0.09, $\chi^2(1)$ = 1.21, p = .271, but those low in brokerage significantly preferred to introduce the STEM-stereotypic (vs. feminine-stereotypic) target to their friends, b = -0.29, SE = 0.09, $\chi^2(1)$ = 10.41, p = .001.

Basic effects

Across experiments, the basic STEM female contrast × target stereotypicality interaction proved significant for both friendship formation, b = -0.11, SE = 0.05, $t(756)$ = -2.16, p = .031, η^2_p = .01, and integration, b = -0.10, SE = 0.04, $\chi^2(1)$ = 5.07, p = .024. STEM women were significantly more likely to personally befriend and marginally more likely to integrate the STEM- (vs. feminine-) stereotypic target, b = -0.15, SE = 0.07, $t(756)$ = -2.24, p = .026, η^2_p = .01, and b = -0.10, SE = 0.06, $\chi^2(1)$ = 2.93, p = .087, respectively. No preference emerged for STEM men, both ps > .29 or non-STEM women, both ps > .23.

Discussion

This pooled (highest-powered) mega-analysis provides support for the predicted pattern of stigma by association, insofar as only STEM women (not the control groups) significantly preferred to befriend and marginally preferred socially integrating a STEM- (vs. feminine-) stereotypic target. Moreover, the key STEM female × target stereotypicality × brokerage interaction was significant for friendship integration, such that STEM women who occupied low-brokerage positions within their social networks were the most reluctant of all participants to introduce the feminine- (vs. STEM-) stereotypic target to their friends.